

# Dynamic Reserves

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February 20, 2024

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# Background

# Background

- **NYISO has worked with stakeholders since 2019 to develop Dynamic Reserves, culminating in a presentation to BIC<sup>1</sup> in December 2023**
- **During the 2023 discussions, Potomac Economics discussed five elements of the NYISO proposal and provided alternate design options<sup>2,3</sup>**
  - Potomac found that the “core elements of [the] Dynamic Reserves design are excellent” but expressed concern over five elements and encouraged further evaluation and discussion
  - The five items identified by Potomac are as follows:
    - Calculation of DAM Congestion Rent: “An error in the calculation of DAM Congestion Rent”
    - Allocation of the Forecast Reserve Charge: “Allocation of the Forecast Reserve Charge”
    - Treatment of Bid Load: “Local 30-min reserve constraints based on “Bid Load””
    - Energy Imports: “Treatment of DAM imports”
    - Large Generator Charges: “Settlements with largest and second largest contingencies”
- **An additional element that will be discussed in 2024 is the interaction with Transmission Congestion Contracts (TCCs)**
- **The purpose of today’s presentation is to describe options for the first item: Calculation of Day-Ahead Market Congestion Rent (DCR)**

1: <https://www.nyiso.com/documents/20142/41671891/UPDATED%20-%2020231213%20BIC%20-%20Dynamic%20Reserves%20REPOSTED.pdf/0bc8d5df-6773-8db1-9f99-d91fd1fd0676>

2: [https://www.nyiso.com/documents/20142/41393553/MMU%20Comments%20re%20Dynamic%20Reserves%20Proposal\\_11-27-2023.pdf/6b8c9fce-5e44-233e-1545-059f0747025e](https://www.nyiso.com/documents/20142/41393553/MMU%20Comments%20re%20Dynamic%20Reserves%20Proposal_11-27-2023.pdf/6b8c9fce-5e44-233e-1545-059f0747025e)

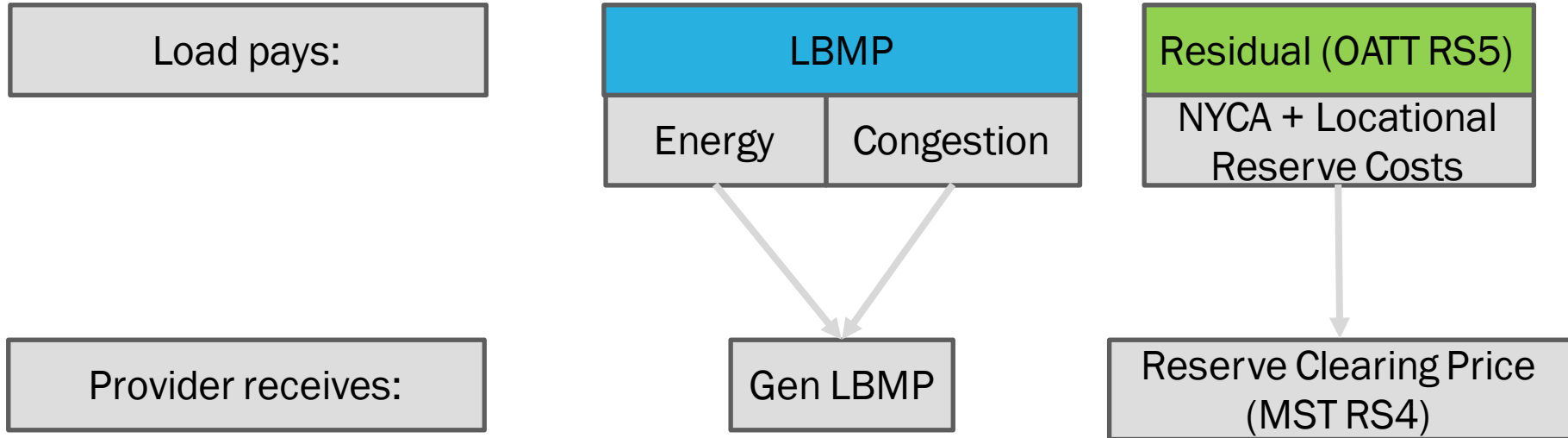
3: [https://www.nyiso.com/documents/20142/41570800/MMU%20Comments%20re%20Dynamic%20Reserves%20Proposal\\_12-04-2023.pdf/41ef7ba416d04-9bae-af42-95fa023659ac](https://www.nyiso.com/documents/20142/41570800/MMU%20Comments%20re%20Dynamic%20Reserves%20Proposal_12-04-2023.pdf/41ef7ba416d04-9bae-af42-95fa023659ac)

# DAM Congestion Rent

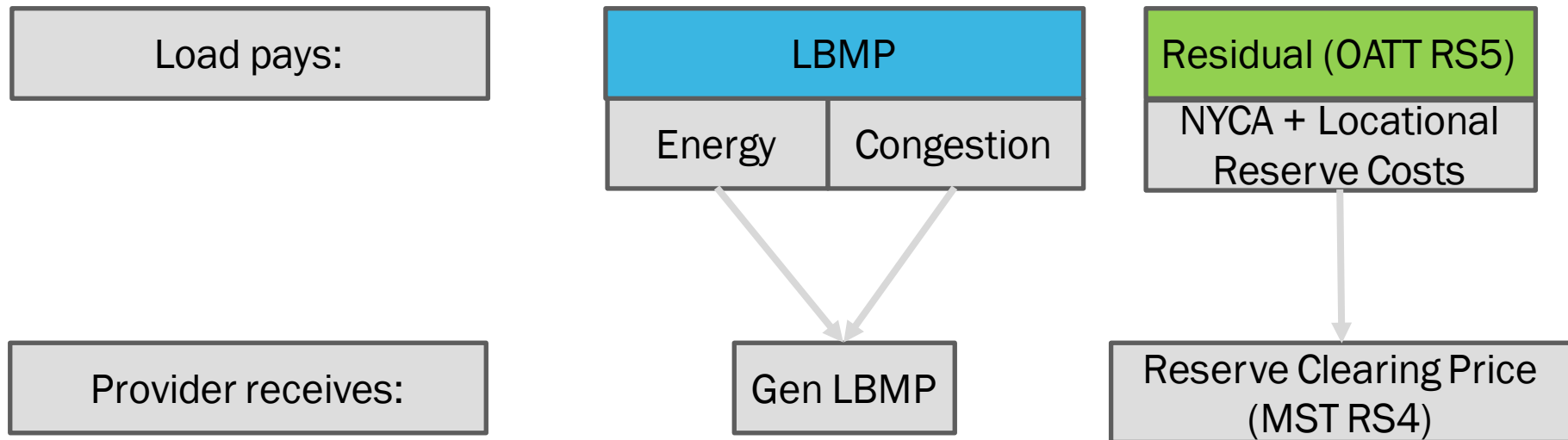
# Operating Reserve Cost Recovery Options

- **Locational Operating Reserve suppliers receive compensation for their services**
  - Compensation includes (1) compensation for providing NYCA-wide reserves and (2) compensation for providing locational reserves
  - For background, a supplier that provides locational reserves inherently provides NYCA reserves due to the cascading structure of the NYISO operating reserve market
  - Under Dynamic Reserves, the NYISO would recover the NYCA-wide reserve cost component through OATT Rate Schedule 5, as is done today
- **Locational reserve costs reflect the cost of scheduling reserves to meet the locational Dynamic Reserves constraints**
- **There are two options for the NYISO to recover the locational reserve costs**
  - Both options produce the same LBMPs, energy schedules, reserve prices, reserve schedules, transmission flows, and total cost to load
  - These options do not change the formulation of the Dynamic Reserves constraints
- **Option A: Recover locational reserve costs through OATT Rate Schedule 5**
  - Locational reserve costs will be recovered from load through OATT Rate Schedule 5
  - Congestion rent (less congestion rent paid to energy suppliers) will be returned to load via the TCC market
- **Option B: Recover locational reserve costs through DAM congestion rent**
  - Locational reserve costs will be recovered from load through DAM congestion rent
  - Congestion rent (less congestion rent paid to energy suppliers and locational reserve payments) will be returned to load via the TCC market

# Current Energy & Reserve Settlements



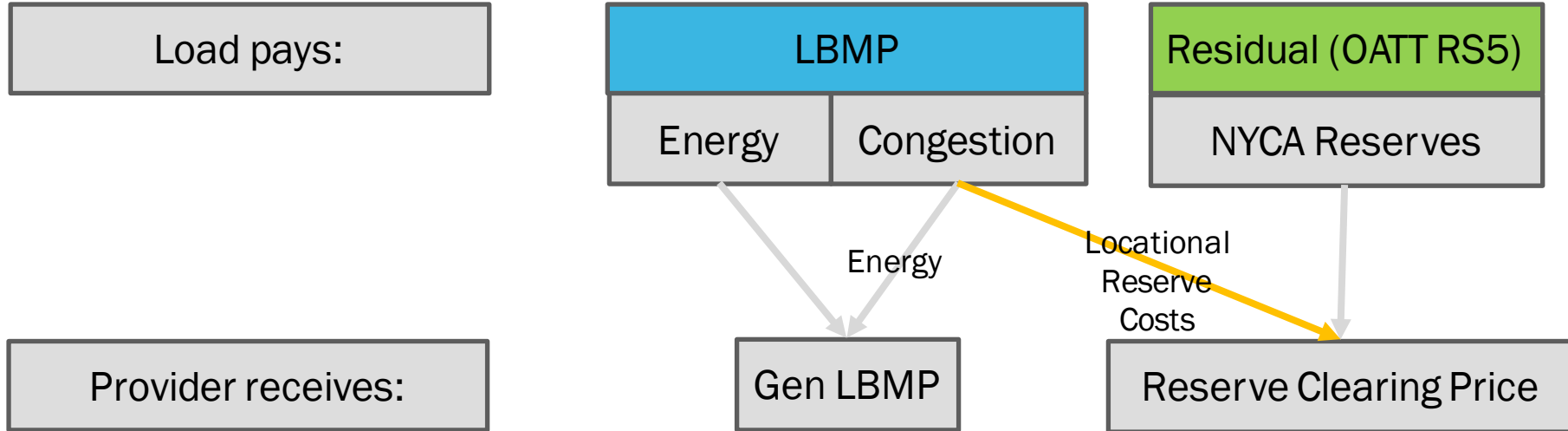
# Option A



- Option A maintains the existing mechanism for recovering locational reserve costs
- Appropriately compensates energy, reserve, and transmission providers for their services



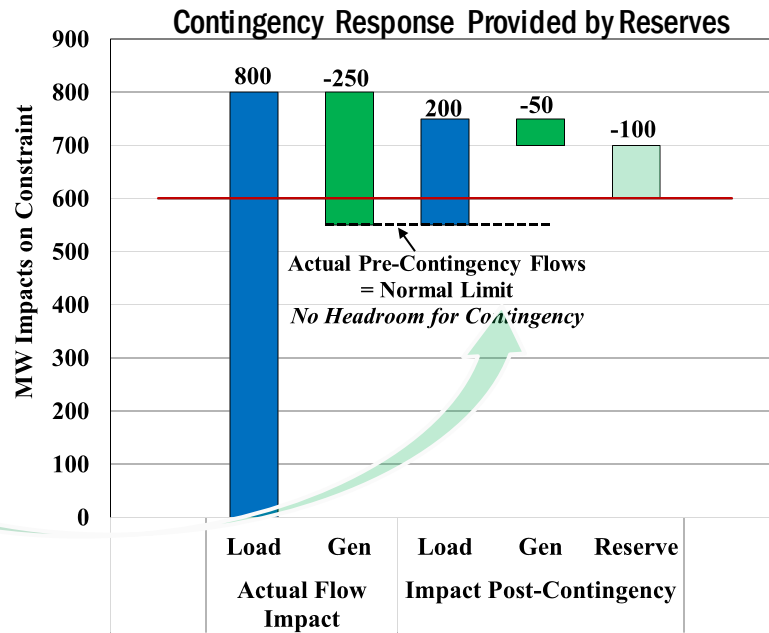
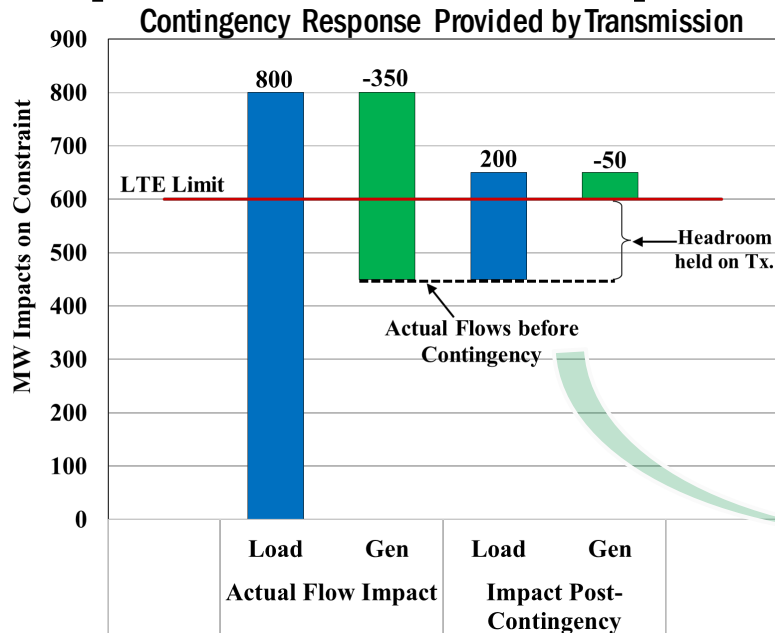
# Option B



# Option B example, cont'd

- The data for the following example and graphs is based on the Dynamic Reserves presentation by the MMU on **11/27/2023**.
  - Line Normal Transfer Limit: 550 MW
  - LTE limit: 600 MW
  - Shadow Price: \$2/MW

# Option B example, cont'd



- Properly including the new congestion payments to local reserves in the congestion rent calculation will assign costs naturally through prices → revenue adequate, incentive compatible and J&R.
- Simply requires adding a term to DAM Congestion Rent formula.

Source: Potomac's 11/27/23 MIWG presentation, slide 6.

# Discussion

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- **The NYISO is seeking feedback on both options described today**

# Next Steps

# Next Steps

- **The NYISO will return to a subsequent MIWG for further discussions**

# Our Mission & Vision



## Mission

Ensure power system reliability and competitive markets for New York in a clean energy future



## Vision

Working together with stakeholders to build the cleanest, most reliable electric system in the nation



# Questions?

# Appendix

# Previous Presentations

Title/Topic	Link
March 7, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/36639552/Dynamic%20Reserves%20-%2020230307%20MIWG_final.pdf/a29ccf5d-4c26-5cbf-0103-5bece7edb276">https://www.nyiso.com/documents/20142/36639552/Dynamic%20Reserves%20-%2020230307%20MIWG_final.pdf/a29ccf5d-4c26-5cbf-0103-5bece7edb276</a>
March 31, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/36828420/MIWG%20March%2031%20Dynamic%20Reserves%20Postings%20and%20LMP.pdf/81c35384-2438-1e03-e021-6e7ecc18f9d7">https://www.nyiso.com/documents/20142/36828420/MIWG%20March%2031%20Dynamic%20Reserves%20Postings%20and%20LMP.pdf/81c35384-2438-1e03-e021-6e7ecc18f9d7</a>
September 5, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/39768278/2%2020230905%20MIWG%20-%20Dynamic%20Reserves.pdf/d58e28ab-de87-7a86-4296-a8c21f7c764f">https://www.nyiso.com/documents/20142/39768278/2%2020230905%20MIWG%20-%20Dynamic%20Reserves.pdf/d58e28ab-de87-7a86-4296-a8c21f7c764f</a>
September 14, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/40004830/20230914%20MIWG%20-%20Dynamic%20Reserves.pdf/a1c6d806-5b67-a8fc-9d04-a1669a926f54">https://www.nyiso.com/documents/20142/40004830/20230914%20MIWG%20-%20Dynamic%20Reserves.pdf/a1c6d806-5b67-a8fc-9d04-a1669a926f54</a>
September 18, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/40044890/5%2020230918%20MIWG%20-%20Dynamic%20Reserves.pdf/0b1b7e63-737d-5bee-4abc-be65c234aa3b">https://www.nyiso.com/documents/20142/40044890/5%2020230918%20MIWG%20-%20Dynamic%20Reserves.pdf/0b1b7e63-737d-5bee-4abc-be65c234aa3b</a>
September 26, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/40204141/4%2020230926%20MIWG%20-%20Dynamic%20Reserves.pdf/90e8c0b2-aef-0935-5c4e-bd260c948f3c">https://www.nyiso.com/documents/20142/40204141/4%2020230926%20MIWG%20-%20Dynamic%20Reserves.pdf/90e8c0b2-aef-0935-5c4e-bd260c948f3c</a>
October 3, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/40342797/20231003%20MIWG%20-%20Dynamic%20Reserves.pdf/51657652-ac7e-c9e2-ed5f-85b52e7e49f7">https://www.nyiso.com/documents/20142/40342797/20231003%20MIWG%20-%20Dynamic%20Reserves.pdf/51657652-ac7e-c9e2-ed5f-85b52e7e49f7</a>
October 12, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/40559142/Dynamic%20Reserves.pdf/a17ba0a7-8e59-53b9-e028-4942f595c2f1">https://www.nyiso.com/documents/20142/40559142/Dynamic%20Reserves.pdf/a17ba0a7-8e59-53b9-e028-4942f595c2f1</a>

# Previous Presentations

Title/Topic	Link
October 19, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/40696384/20231019%20MIWG%20-%20Dynamic%20Reserves.pdf/ef4371c2-5bff-7adb-5871-1d77d6fa98eb">https://www.nyiso.com/documents/20142/40696384/20231019%20MIWG%20-%20Dynamic%20Reserves.pdf/ef4371c2-5bff-7adb-5871-1d77d6fa98eb</a>
November 8, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/41049783/20231108%20MIWG%20-%20Dynamic%20Reserves.pdf/e38b6d72-aa3f-69f3-b43f-8b3591b0e314">https://www.nyiso.com/documents/20142/41049783/20231108%20MIWG%20-%20Dynamic%20Reserves.pdf/e38b6d72-aa3f-69f3-b43f-8b3591b0e314</a>
November 17, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/41273741/20231117%20MIWG%20-%20Dynamic%20Reserves_final.pdf/d18195bc-c940-1a1f-51c1-3220a02c23bd">https://www.nyiso.com/documents/20142/41273741/20231117%20MIWG%20-%20Dynamic%20Reserves_final.pdf/d18195bc-c940-1a1f-51c1-3220a02c23bd</a>
November 27, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/41393553/20231127%20MIWG%20-%20Dynamic%20Reserves.pdf/ec047167-4bcb-2610-4e15-2a57565d9d18">https://www.nyiso.com/documents/20142/41393553/20231127%20MIWG%20-%20Dynamic%20Reserves.pdf/ec047167-4bcb-2610-4e15-2a57565d9d18</a>
December 4, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/41570800/20231204%20MIWG%20-%20Dynamic%20Reserves.pdf/44492075-1cfb-2446-99eb-3427b28a23c7">https://www.nyiso.com/documents/20142/41570800/20231204%20MIWG%20-%20Dynamic%20Reserves.pdf/44492075-1cfb-2446-99eb-3427b28a23c7</a>
December 6, 2023 MIWG	<a href="https://www.nyiso.com/documents/20142/41611225/20231206%20MIWG%20-%20Dynamic%20Reserves.pdf/65df622a-9fd6-7772-287e-b56575fc23e4">https://www.nyiso.com/documents/20142/41611225/20231206%20MIWG%20-%20Dynamic%20Reserves.pdf/65df622a-9fd6-7772-287e-b56575fc23e4</a>
December 13, 2023 BIC	<a href="https://www.nyiso.com/documents/20142/41671891/UPDATED%20-%2020231213%20BIC%20-%20Dynamic%20Reserves%20REPOSTED.pdf/0bc8d5df-6773-8db1-9f99-d91fd1fd0676">https://www.nyiso.com/documents/20142/41671891/UPDATED%20-%2020231213%20BIC%20-%20Dynamic%20Reserves%20REPOSTED.pdf/0bc8d5df-6773-8db1-9f99-d91fd1fd0676</a>
January 25, 2024 MIWG	<a href="https://www.nyiso.com/documents/20142/42590322/20240125%20Dynamic%20Reserves%20MIWG%20v2.pdf/305719ad-74a3-c57b-30c2-e3ccd229fc54">https://www.nyiso.com/documents/20142/42590322/20240125%20Dynamic%20Reserves%20MIWG%20v2.pdf/305719ad-74a3-c57b-30c2-e3ccd229fc54</a>